

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



| | | | | | |
|--|--|-----------------------------|--|----------------------|----------|
| Customer : | | | | | |
| Product line | : NEMA Premium Efficiency Three-Phase | Product code : | 14325202 | | |
| | | Catalog # : | 00312XT3E213T | | |
| Frame | : 213/5T | Cooling method | : IC411 - TEFC | | |
| Insulation class | : F | Mounting | : F-1 | | |
| Duty cycle | : Cont.(S1) | Rotation ¹ | : Both (CW and CCW) | | |
| Ambient temperature | : -20°C to +40°C | Starting method | : Direct On Line | | |
| Altitude | : 1000 m.a.s.l. | Approx. weight ² | : 205 lb | | |
| Protection degree | : IP55 | Moment of inertia (J) | : 1.20 sq.ft.lb | | |
| Design | : B | | | | |
| Output [HP] | 3 | 3 | 3 | 3 | |
| Poles | 6 | 6 | 6 | 6 | |
| Frequency [Hz] | 60 | 50 | 50 | 50 | |
| Rated voltage [V] | 230/460 | 380 | 400 | 415 | |
| Rated current [A] | 8.82/4.41 | 5.28 | 5.15 | 5.11 | |
| L. R. Amperes [A] | 61.7/30.9 | 31.7 | 33.5 | 35.8 | |
| LRC [A] | 7.0x(Code K) | 6.0x(Code H) | 6.5x(Code J) | 7.0x(Code K) | |
| No load current [A] | 5.20/2.60 | 2.40 | 2.75 | 2.90 | |
| Rated speed [RPM] | 1180 | 970 | 975 | 980 | |
| Slip [%] | 1.67 | 3.00 | 2.50 | 2.00 | |
| Rated torque [ft.lb] | 13.4 | 16.2 | 16.2 | 16.1 | |
| Locked rotor torque [%] | 180 | 140 | 180 | 210 | |
| Breakdown torque [%] | 290 | 229 | 250 | 270 | |
| Service factor | 1.15 | 1.00 | 1.00 | 1.00 | |
| Temperature rise | 80 K | 80 K | 80 K | 80 K | |
| Locked rotor time | 104s (cold) 58s (hot) | 72s (cold) 40s (hot) | 72s (cold) 40s (hot) | 72s (cold) 40s (hot) | |
| Noise level ² | 55.0 dB(A) | 53.0 dB(A) | 53.0 dB(A) | 53.0 dB(A) | |
| Efficiency (%) | 25% | 85.4 | 83.4 | 83.5 | 83.5 |
| | 50% | 86.5 | 84.0 | 84.0 | 84.0 |
| | 75% | 88.5 | 84.0 | 84.0 | 84.0 |
| | 100% | 89.5 | 84.4 | 84.4 | 84.4 |
| Power Factor | 25% | 0.29 | 0.36 | 0.31 | 0.29 |
| | 50% | 0.50 | 0.57 | 0.53 | 0.50 |
| | 75% | 0.62 | 0.70 | 0.66 | 0.64 |
| | 100% | 0.70 | 0.75 | 0.73 | 0.71 |
| Bearing type | : Drive end : 6308 2RS Non drive end : 6207 2RS | Foundation loads | | | |
| Sealing | : Oil Seal Lip Seal | Max. traction | : 142 lb | | |
| Lubrication interval | : - - | Max. compression | : 347 lb | | |
| Lubricant amount | : - - | | | | |
| Lubricant type | : Mobil Polyrex EM | | | | |
| Notes USABLE @208V 9.75A SF 1.15 SFA 11.2A | | | | | |
| This revision replaces and cancel the previous one, which must be eliminated. (1) Looking the motor from the shaft end. (2) Measured at 1m and with tolerance of +3dB(A). (3) Approximate weight subject to changes after manufacturing process. (4) At 100% of full load. | | | These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in NEMA MG-1. | | |
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Thermal protection

| ID | Application | Type | Quantity | Sensing Temperature |
|----|-------------|----------------------|-----------|---------------------|
| 1 | Winding | Thermostat - 2 wires | 1 x Phase | 155 °C |

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TORQUE AND CURRENT VS SPEED CURVE



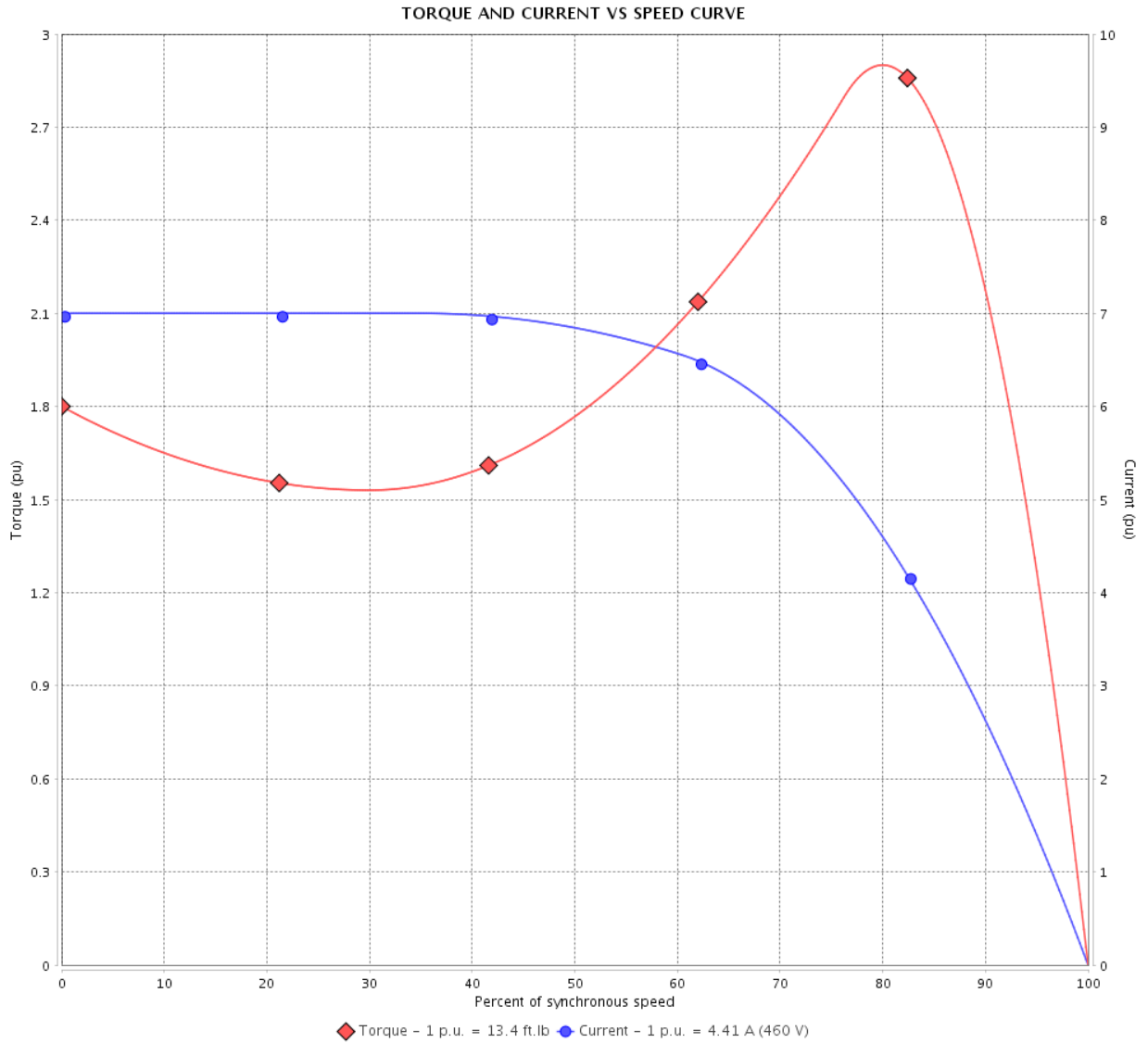
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14325202

Catalog # : 00312XT3E213T



Performance : 230/460 V 60 Hz 6P

Rated current : 8.82/4.41 A
 LRC : 7.0
 Rated torque : 13.4 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 290 %
 Rated speed : 1180 rpm

Moment of inertia (J) : 1.20 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

Locked rotor time : 104s (cold) 58s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



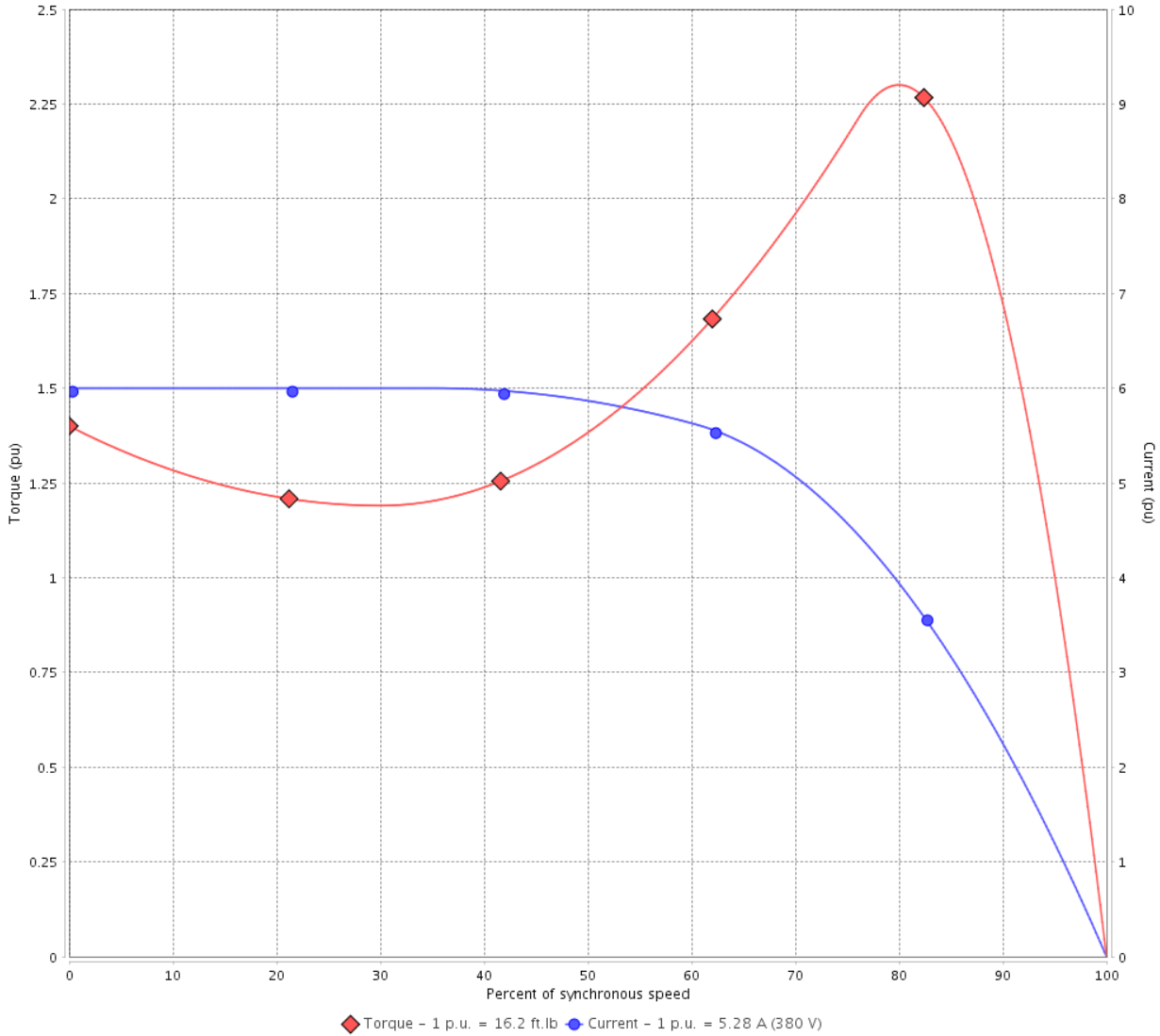
Customer :

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Product code : 14325202

Catalog # : 00312XT3E213T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 6P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 5.28 A | Moment of inertia (J) | : 1.20 sq.ft.lb |
| LRC | : 6.0 | Duty cycle | : Cont.(S1) |
| Rated torque | : 16.2 ft.lb | Insulation class | : F |
| Locked rotor torque | : 140 % | Service factor | : 1.00 |
| Breakdown torque | : 229 % | Temperature rise | : 80 K |
| Rated speed | : 970 rpm | Design | : B |

Locked rotor time : 72s (cold) 40s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



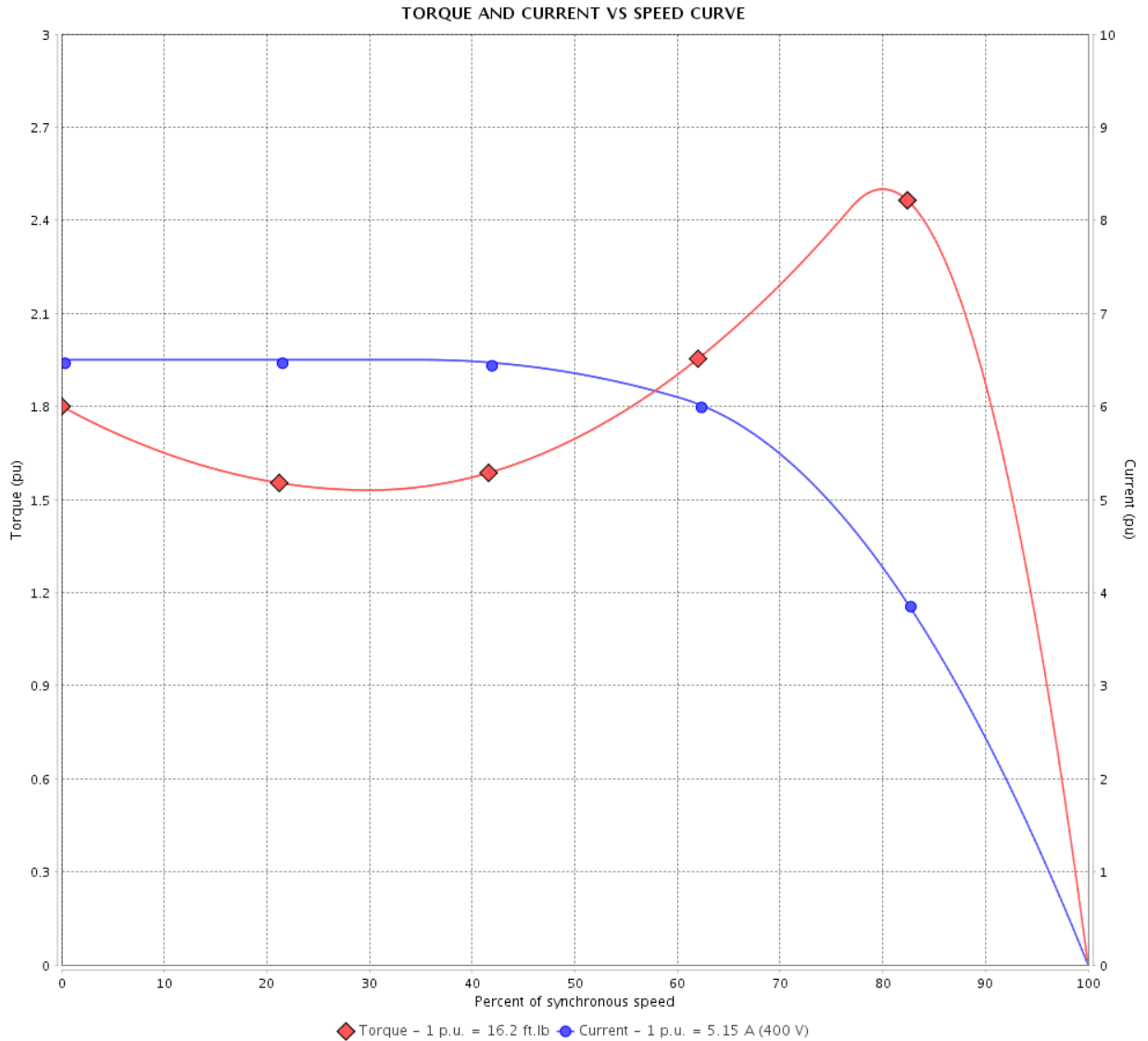
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14325202

Catalog # : 00312XT3E213T



Performance : 400 V 50 Hz 6P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 5.15 A | Moment of inertia (J) | : 1.20 sq.ft.lb |
| LRC | : 6.5 | Duty cycle | : Cont.(S1) |
| Rated torque | : 16.2 ft.lb | Insulation class | : F |
| Locked rotor torque | : 180 % | Service factor | : 1.00 |
| Breakdown torque | : 250 % | Temperature rise | : 80 K |
| Rated speed | : 975 rpm | Design | : B |

Locked rotor time : 72s (cold) 40s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



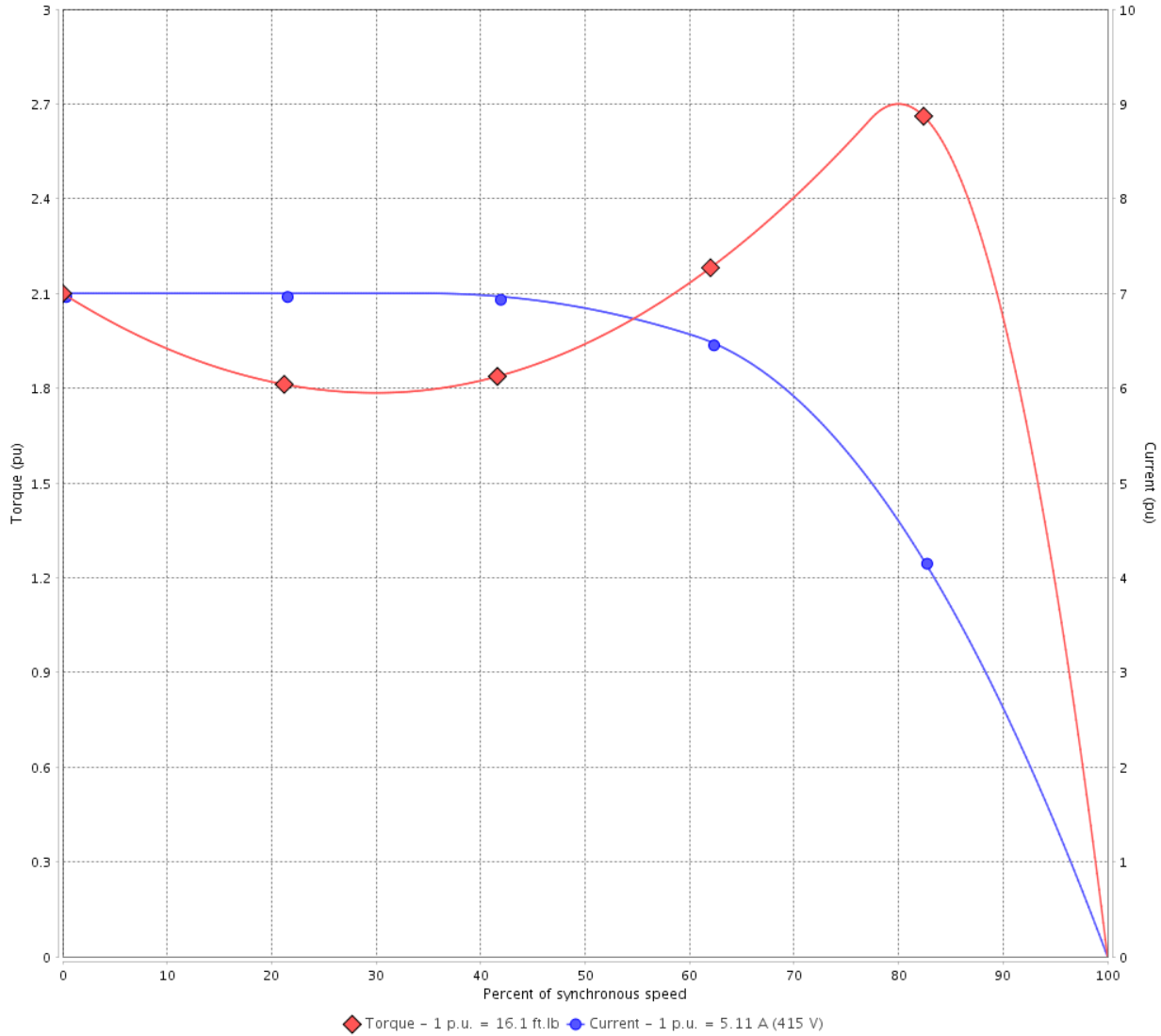
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 6P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 5.11 A | Moment of inertia (J) | : 1.20 sq.ft.lb |
| LRC | : 7.0 | Duty cycle | : Cont.(S1) |
| Rated torque | : 16.1 ft.lb | Insulation class | : F |
| Locked rotor torque | : 210 % | Service factor | : 1.00 |
| Breakdown torque | : 270 % | Temperature rise | : 80 K |
| Rated speed | : 980 rpm | Design | : B |

Locked rotor time : 72s (cold) 40s (hot)

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LOAD PERFORMANCE CURVE

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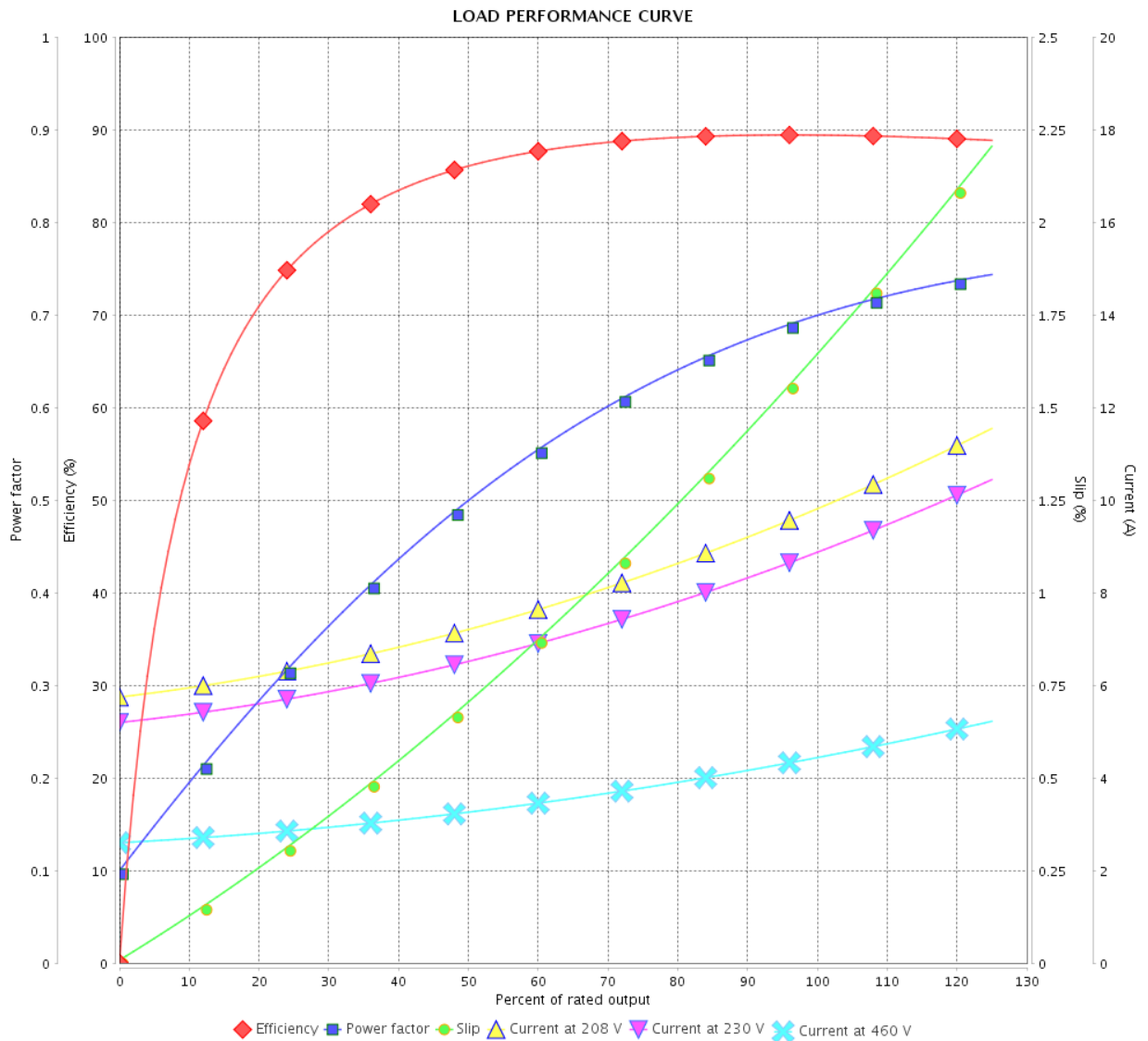


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14325202

Catalog # : 00312XT3E213T



Performance : 230/460 V 60 Hz 6P

Rated current : 8.82/4.41 A
 LRC : 7.0
 Rated torque : 13.4 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 290 %
 Rated speed : 1180 rpm

Moment of inertia (J) : 1.20 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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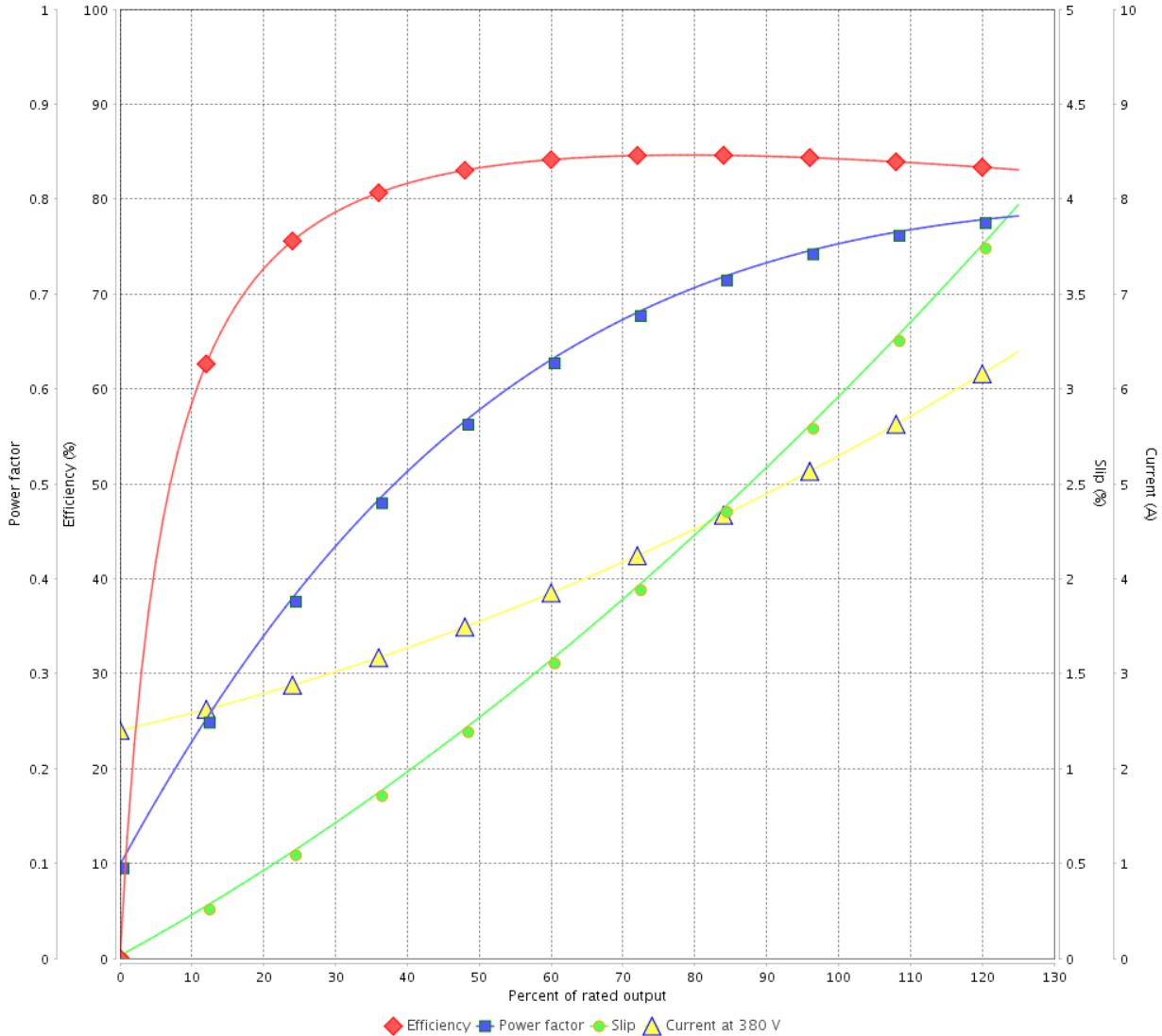
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LOAD PERFORMANCE CURVE



Performance : 380 V 50 Hz 6P IE3

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 LRC : 6.0
 Rated torque : 16.2 ft.lb
 Locked rotor torque : 140 %
 Breakdown torque : 229 %
 Rated speed : 970 rpm

Moment of inertia (J) : 1.20 sq.ft.lb
 Duty cycle : Cont.(S1)
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Three Phase Induction Motor - Squirrel Cage

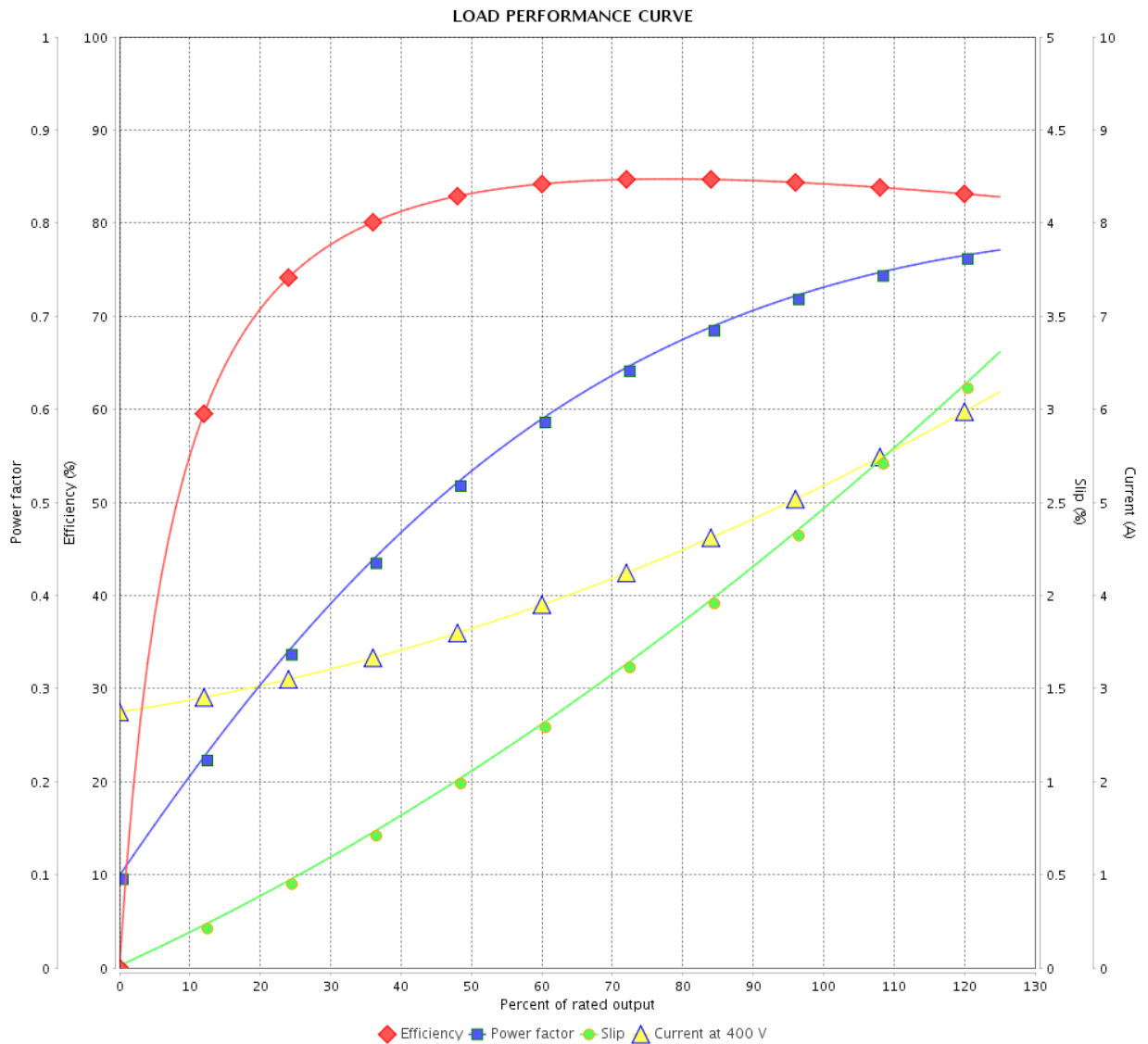


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Product line : NEMA Premium Efficiency Three-Phase

Product code : 14325202

Catalog # : 00312XT3E213T



Performance : 400 V 50 Hz 6P IE3

Rated current : 5.15 A
 LRC : 6.5
 Rated torque : 16.2 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 250 %
 Rated speed : 975 rpm

Moment of inertia (J) : 1.20 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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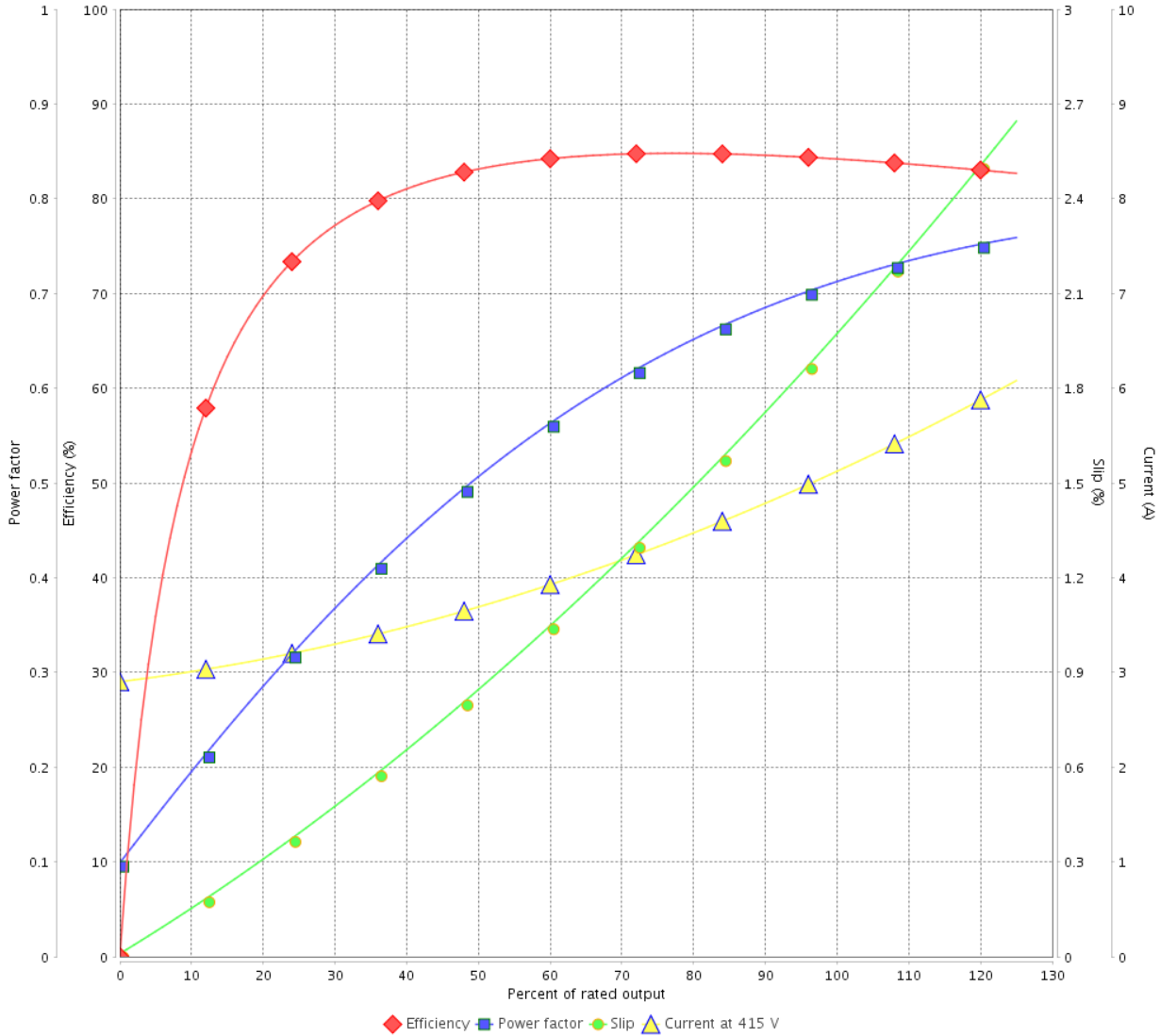
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LOAD PERFORMANCE CURVE



Performance : 415 V 50 Hz 6P IE3

Rated current : 5.11 A
 LRC : 7.0
 Rated torque : 16.1 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 270 %
 Rated speed : 980 rpm

Moment of inertia (J) : 1.20 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

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 Product code : 14325202
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Performance : 230/460 V 60 Hz 6P

| | |
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| Rated current : 8.82/4.41 A | Moment of inertia (J) : 1.20 sq.ft.lb |
| LRC : 7.0 | Duty cycle : Cont.(S1) |
| Rated torque : 13.4 ft.lb | Insulation class : F |
| Locked rotor torque : 180 % | Service factor : 1.15 |
| Breakdown torque : 290 % | Temperature rise : 80 K |
| Rated speed : 1180 rpm | Design : B |

Heating constant

Cooling constant

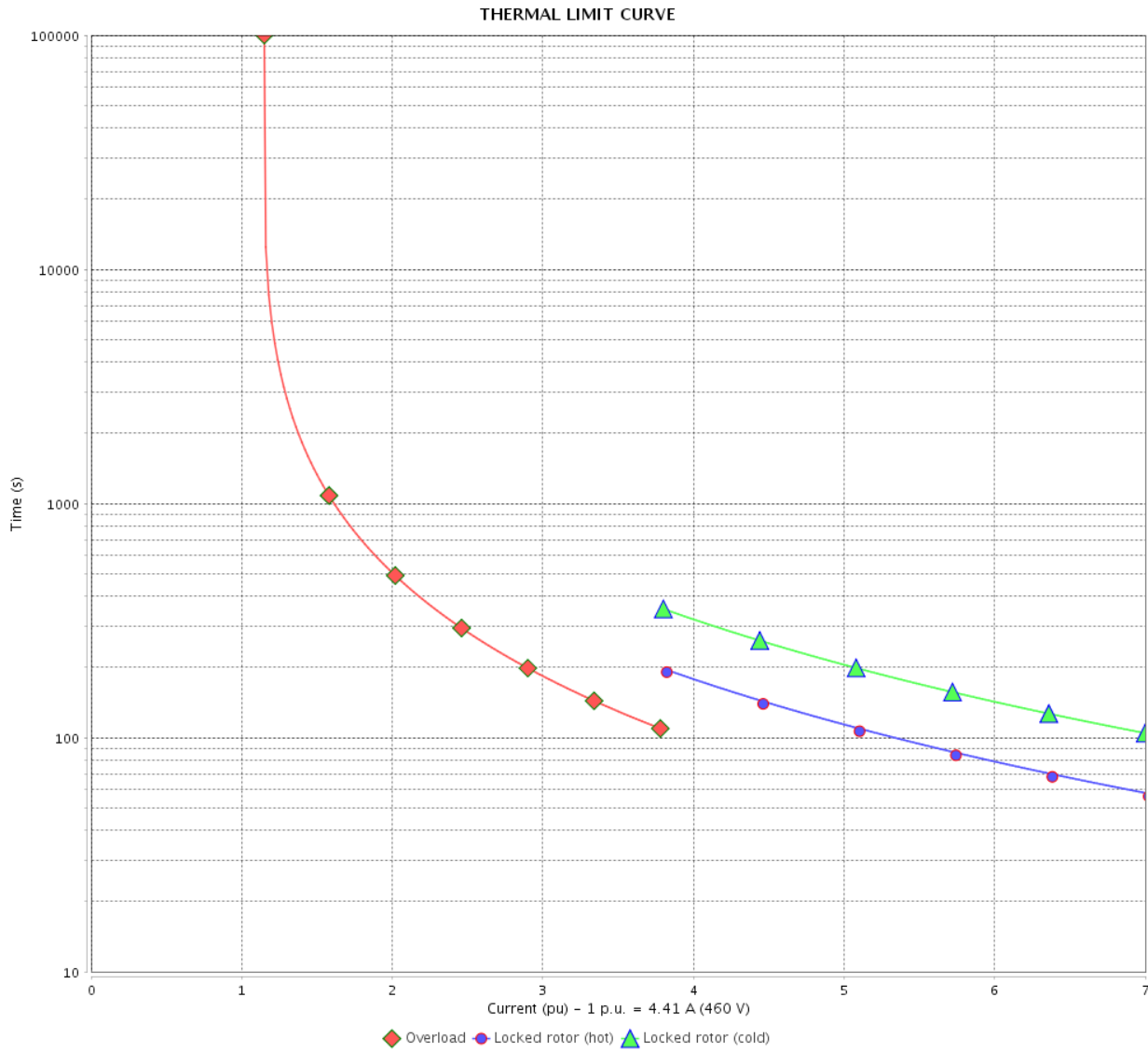
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THERMAL LIMIT CURVE

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THERMAL LIMIT CURVE

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Customer :

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Performance : 380 V 50 Hz 6P IE3

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| Rated current : 5.28 A | Moment of inertia (J) : 1.20 sq.ft.lb |
| LRC : 6.0 | Duty cycle : Cont.(S1) |
| Rated torque : 16.2 ft.lb | Insulation class : F |
| Locked rotor torque : 140 % | Service factor : 1.00 |
| Breakdown torque : 229 % | Temperature rise : 80 K |
| Rated speed : 970 rpm | Design : B |

Heating constant

Cooling constant

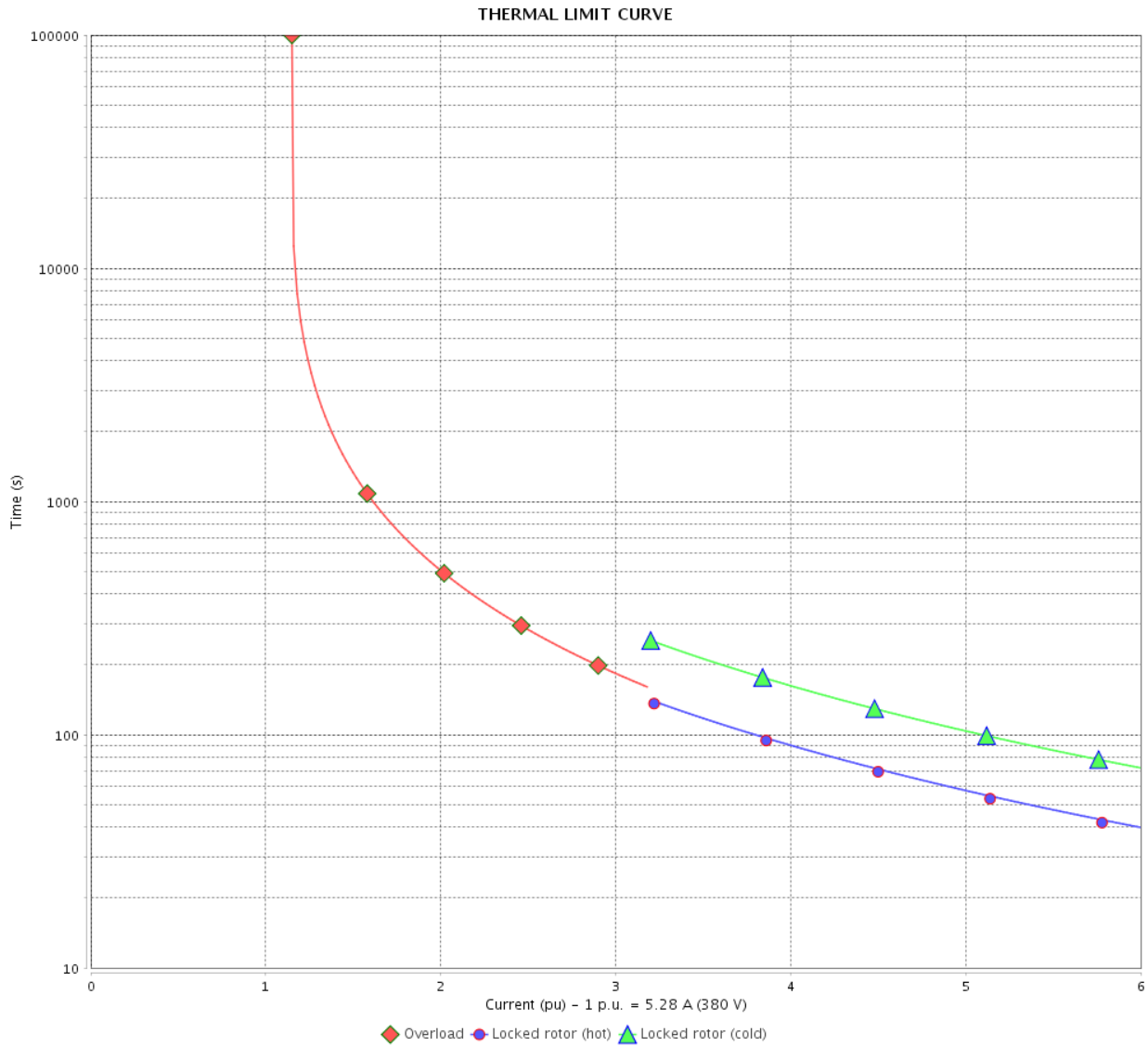
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THERMAL LIMIT CURVE



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Customer :

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 Product code : 14325202
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Performance : 400 V 50 Hz 6P IE3

| | |
|-----------------------------|---------------------------------------|
| Rated current : 5.15 A | Moment of inertia (J) : 1.20 sq.ft.lb |
| LRC : 6.5 | Duty cycle : Cont.(S1) |
| Rated torque : 16.2 ft.lb | Insulation class : F |
| Locked rotor torque : 180 % | Service factor : 1.00 |
| Breakdown torque : 250 % | Temperature rise : 80 K |
| Rated speed : 975 rpm | Design : B |

Heating constant

Cooling constant

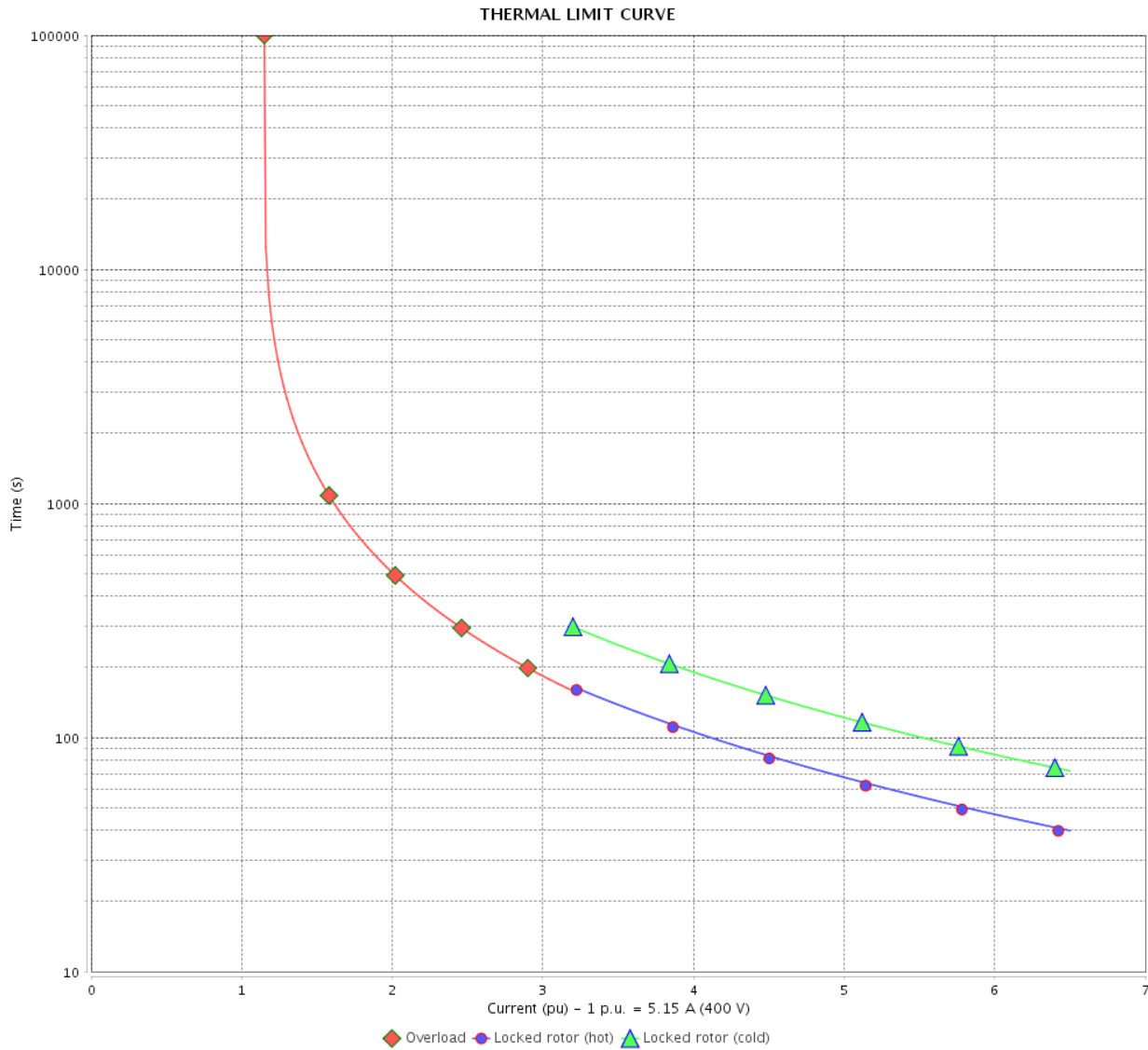
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THERMAL LIMIT CURVE

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THERMAL LIMIT CURVE



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| LRC : 7.0 | Duty cycle : Cont.(S1) |
| Rated torque : 16.1 ft.lb | Insulation class : F |
| Locked rotor torque : 210 % | Service factor : 1.00 |
| Breakdown torque : 270 % | Temperature rise : 80 K |
| Rated speed : 980 rpm | Design : B |

Heating constant

Cooling constant

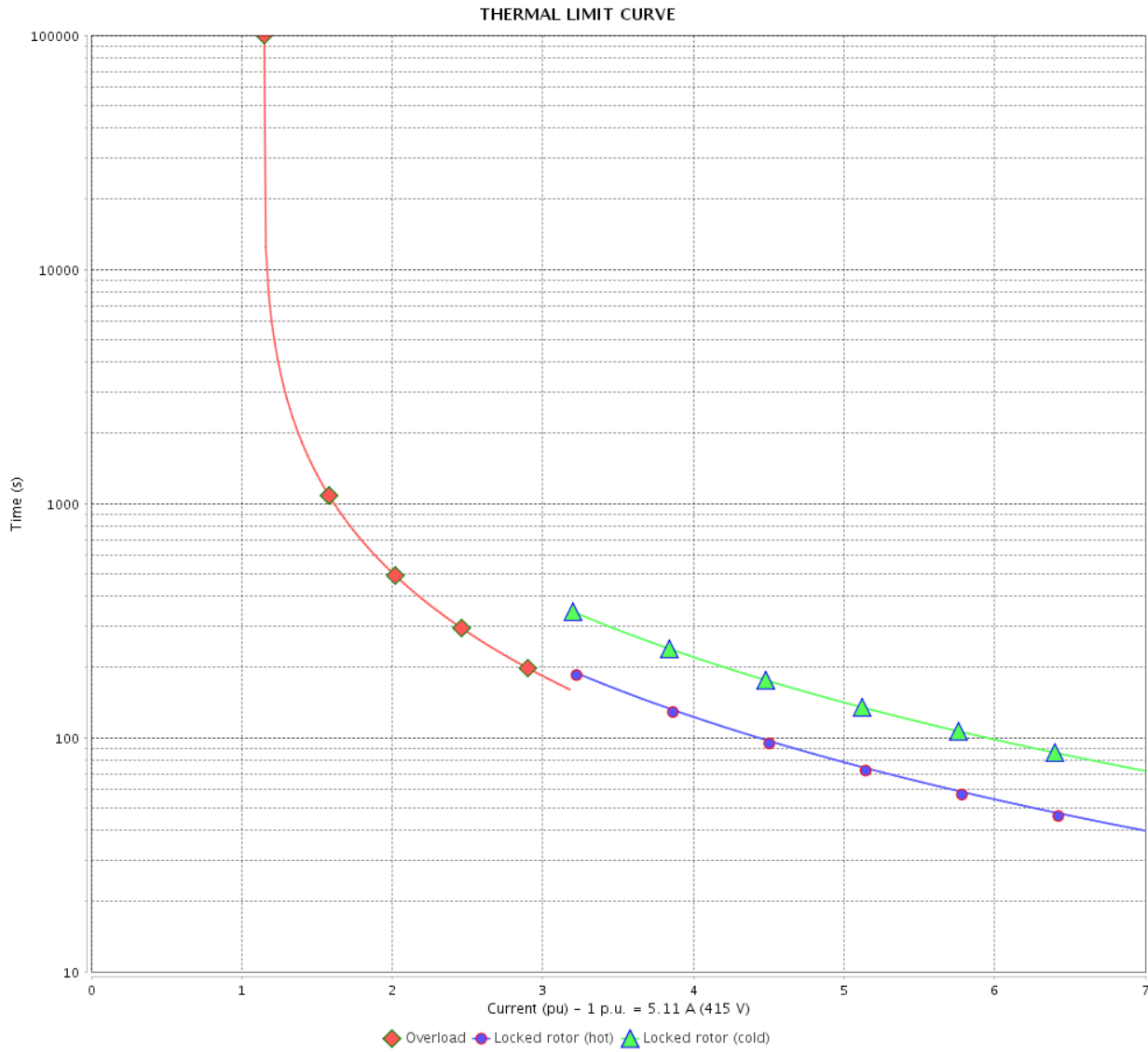
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

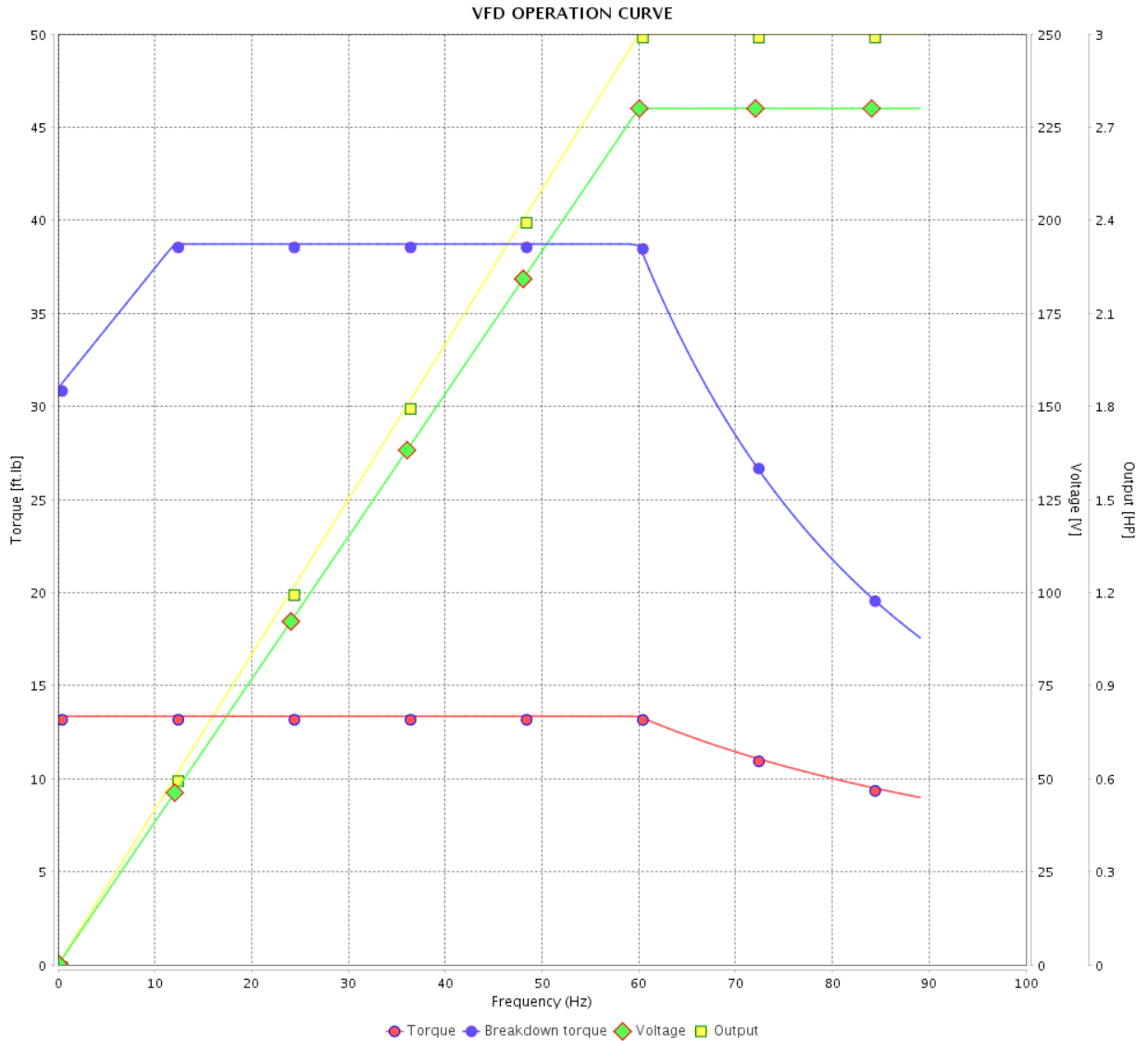


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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

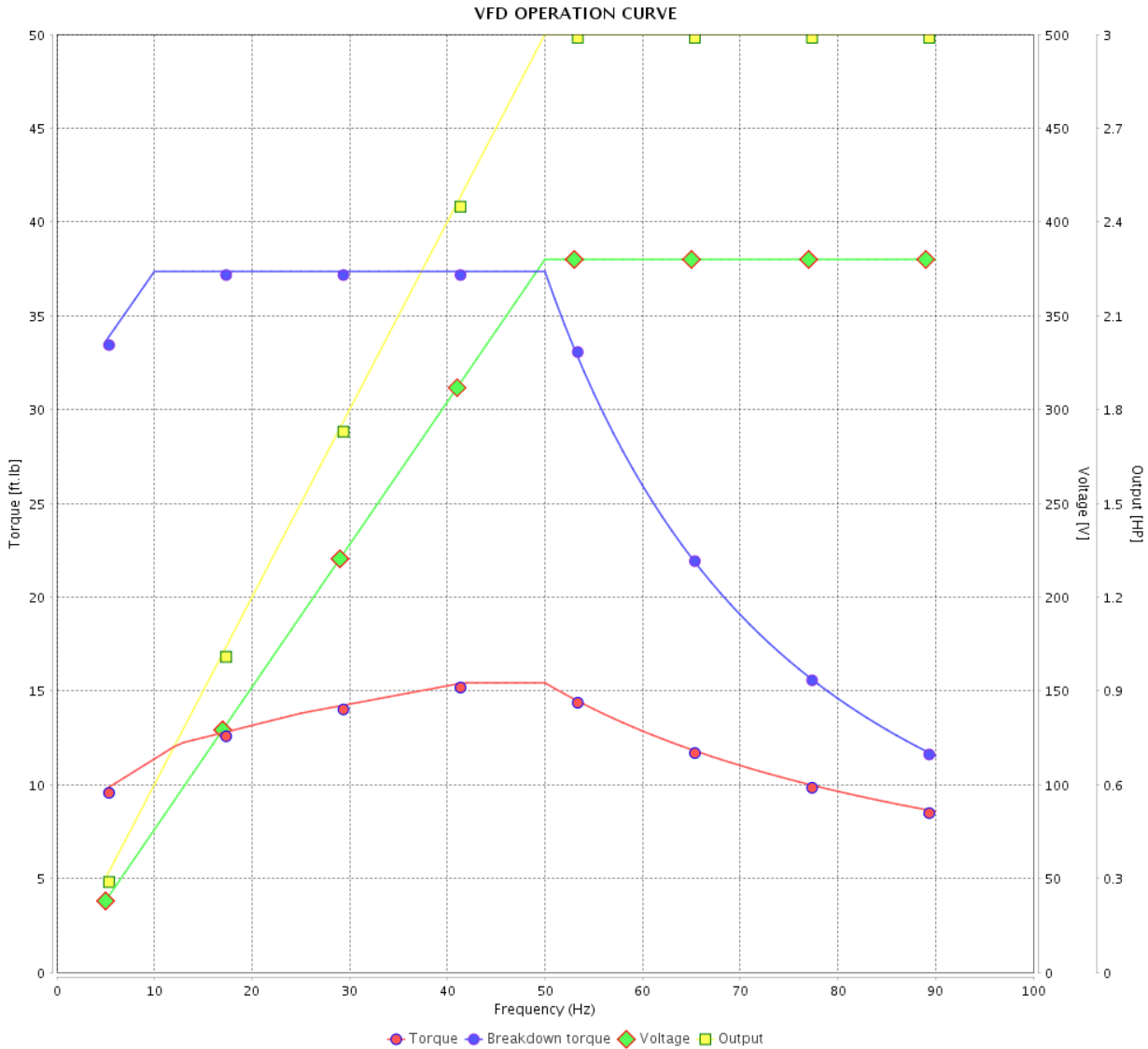


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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

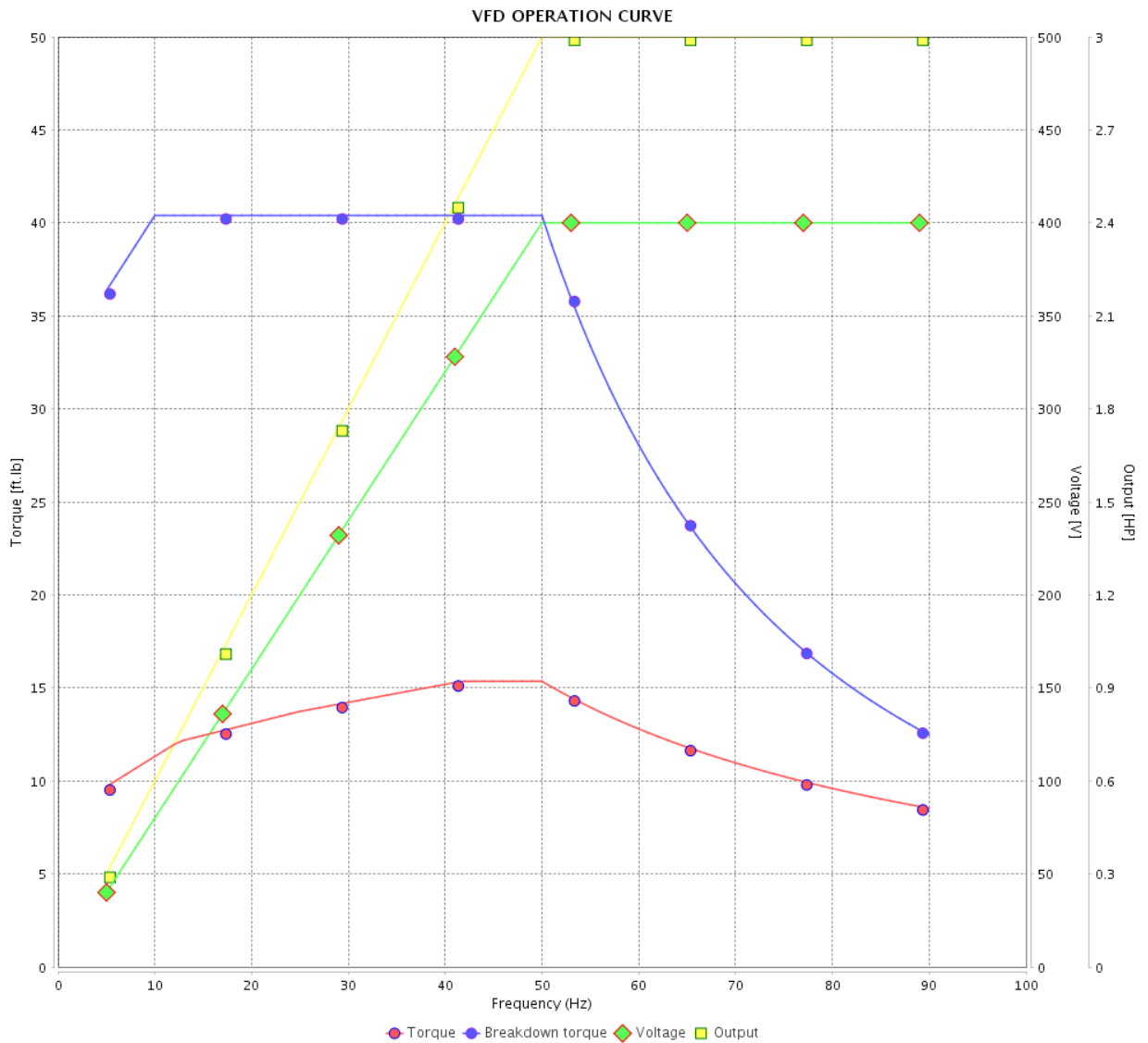


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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

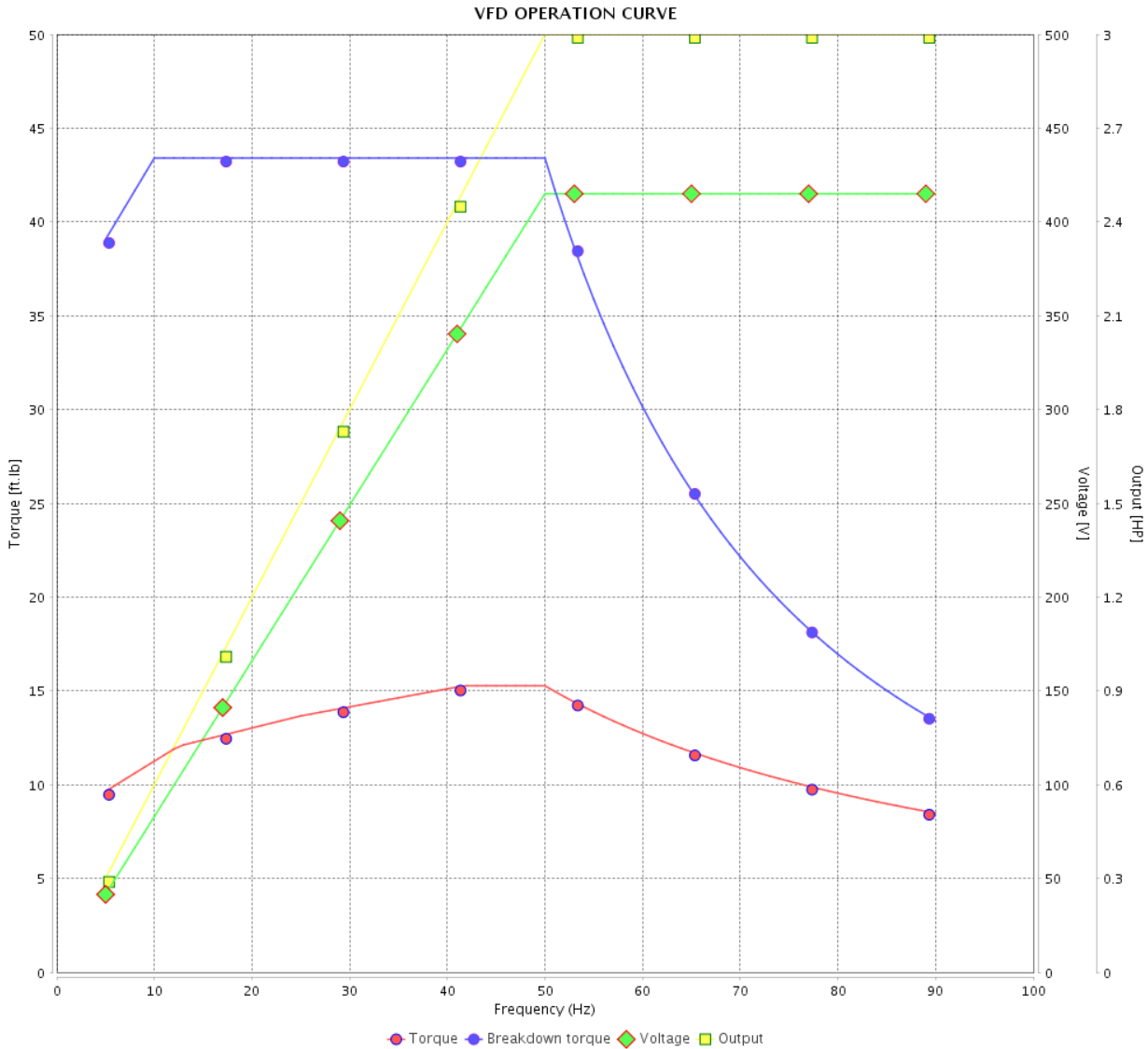


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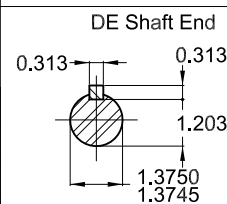
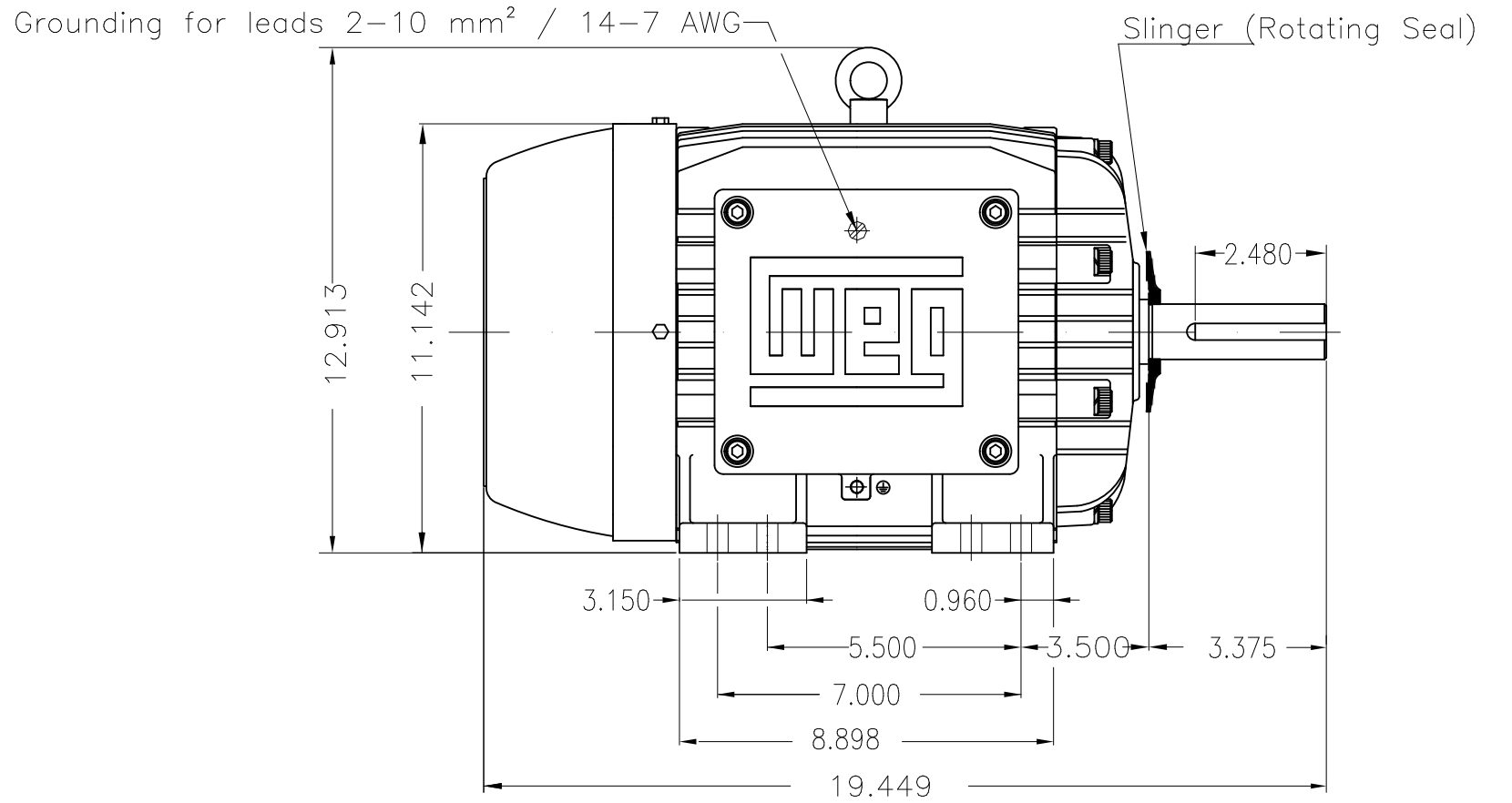
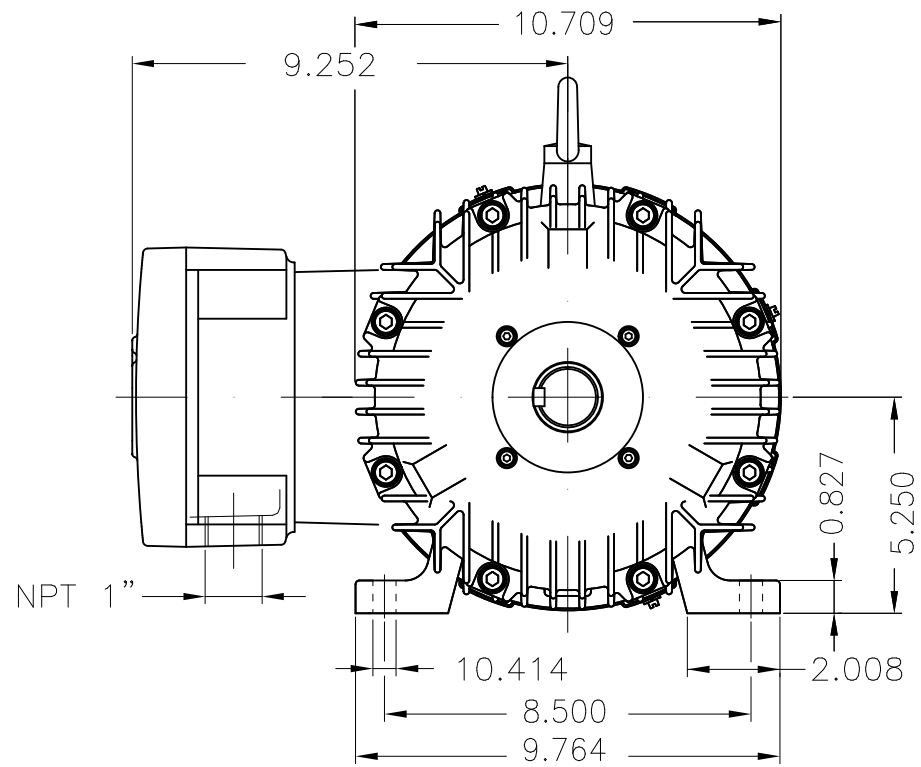
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|---------------------|--------------|-----------------------|-----------------|
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Color RAL 5009
 Painting plan 202P
 Mounting NEMA F-1
 Mounting B3R(D)

3 HP 06 Poles 60 Hz A

| ECM | LOC | SUMMARY OF MODIFICATIONS | EXECUTED | CHECKED | RELEASED | DATE | VER |
|----------|-----------|--|---------------------|---------|----------|------|-----|
| EXECUTED | PIRWBUSER | THREE PH. MOTOR EXPLOSION PROOF PREM. EFF. | | | | | |
| CHECKED | | FRAME 213/5T IP55 TEFC | | | | | |
| RELEASED | | | | | | | |
| REL DT. | WMO | Jaragua do Sul | Product Engineering | SHEET | 1 / 1 | | |

PREVIEW
 WDD



MADE IN BRAZIL


W21X NEMA
Premium

14325202

CC029A

Inverter Duty Motor
Severe Duty


LISTED

MODEL 00312XT3E213T

PH 3 FR 213/5T

HP(kW) 3.0(2.2)

HZ 60

IP55

V 230/460

A 8.82/4.41

RPM 1180

NEMA NOM EFF 89.5%

PF 0.70

SFA 10.1/5.07

DES B

INS CL F Δ T 80 K SF 1.15

ENCL TEFC

DUTY CONT.

CODE K

ALT 1000

m.a.s.l.

AMB 40°C

USABLE @208V

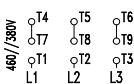
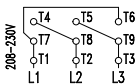
9.75 A

SF 1.15

SFA 11.2

AMB 55°C SF1.0

3.0HP 2.2kW 50Hz 380V 5.28A 970RPM SF1.00 EFF 84.4% (IE3)



→ 6308-2RS MOBIL POLYREX EM

→ 6207-2RS

201 Lbs


 TEMP CODE T3C
 CSA/UL: Class I - Div. 1 - Groups C and D
 CSA: Class II - Div. 1 - Groups F and G
 CSA: Class I - Zone 1 - IIB

EXPLOSION PROOF MOTOR

FOR USE ON VPWM VFD 1000:1VT, 20:1CT, 1.0SF, T3C, AMB 40°C.